IN THE CLAIMS

Please amend claims 1-26.

Please enter the pending claims as follows:

1. (Currently Amended) A broad-angle multilayer (ML) mirror comprising a multiple layer structure over a substrate to provide uniform reflectivity over a wide range of incident angles with small phase shifts, the multiple layer structure comprising ~~36~~ bi-layers ~~wherein~~ with an extra thick layer of Molybdenum next to the substrate ~~has a thickness of 2.4 – 11.3 nm and Silicon has a thickness of 3.5 – 10.4 nm~~.

2. (Currently Amended) The broad-angle ML mirror of claim 1 wherein the ~~ML mirror~~ multiple layer structure provides an acceptance angle in excess of 20° without a significant loss of reflectivity.

3. (Currently Amended) The broad-angle ML mirror of claim 2 wherein the loss of reflectivity is approximately 17%.

4. (Currently Amended) The broad-angle ML mirror of claim 1 wherein the ~~ML mirror~~ multiple layer structure increases the ~~relative~~ small phase shifts ~~shift~~.

5. (Currently Amended) The broad-angle ML mirror of claim 1 wherein the ~~ML mirror~~ multiple layer structure reflects light comprising ~~comprises~~ a 13.5nm central wavelength.

6. (Currently Amended) The broad-angle ML mirror of claim 1 wherein the multiple layer structure comprises: Molybdenum having a thickness of 2.4-11.3 nm alternating with Silicon having a thickness of 3.5-10.4 nm in the bi-layers ~~a 13.5nm central wavelength~~.

7. (Currently Amended) The broad-angle ML mirror of claim 1 wherein each of the bi-layers in the multiple layer structure has ~~have~~ a variable thickness.

8. (Currently Amended) The broad-angle ML mirror of claim 1 wherein the multiple layer structure further comprises an extra thick layer of Silicon near the substrate ~~includes additional bi-layers~~.

9. (Currently Amended) The broad-angle ML mirror of claim 8 wherein the extra thick layer of Molybdenum is in bi-layer no. 1 ~~additional bi-layers in the structure are comprised of Mo/Si bi-layers~~.

10. (Currently Amended) The broad-angle ML mirror of claim 8 wherein the extra thick layer of Silicon is in bi-layer no. 3 ~~additional bi-layers in the structure have a variable thickness~~.

11. (Currently Amended) An optical system having an extreme ultra-violet (EUV) radiation source, the optical system comprising:

a mask;

a wafer; and

a plurality of reflecting surfaces for imaging the mask on the wafer, wherein one or more of the plurality of reflecting surfaces includes a broad-angle multilayer (ML) mirror having a multiple layer structure over a substrate to provide uniform reflectivity over a wide range of incident angles with small phase shifts, the broad-angle ML mirror comprising ~~36~~ bi-layers ~~wherein~~ with an extra thick layer of Molybdenum next to the substrate ~~has a thickness of 2.4 – 11.3 nm and Silicon has a thickness of 3.5 – 10.4 nm~~.

12. (Currently Amended) The optical system of claim 11 wherein the plurality of reflecting surfaces comprises six mirrors.

13. (Currently Amended) The optical system of claim 11 wherein the broad-angle ML mirror provides an acceptance angle in excess of 20° without a significant loss of reflectivity.

14. (Currently Amended) The optical system of claim 13 wherein the ~~ML mirror has a~~ loss of reflectivity ~~of~~ is approximately 17%.

15. (Currently Amended) The optical system of claim 11 wherein the broad-angle ML mirror increases the small ~~relative~~ phase shifts ~~shift~~.

16. (Currently Amended) The optical system of claim 11 wherein the broad-angle ML mirror reflects light comprising ~~comprises~~ a 13.5 nm central wavelength.

17. (Currently Amended) The optical system of claim 11 wherein the ~~structure~~ broad-angle ML mirror comprises: Molybdenum having a thickness of 2.4-11.3 nm alternating with Silicon having a thickness of 3.5-10.4 nm in the bi-layers ~~a 13.5nm central wavelength~~.

18. (Currently Amended) The system of claim 11 wherein each of the bi-layers has ~~have~~ a variable thickness.

19. (Currently Amended) The system of claim 11 wherein the ~~structure~~ broad-angle mirror includes ~~more than~~ thirty-six bi-layers.

20. (Currently Amended) An optical system having an extreme ultra-violet (EUV) radiation source, the system comprising:

a mask;

a wafer; and

a plurality of reflecting surfaces for imaging the mask on the wafer, including:

a broad-angle mirror having a multiple layer structure over a substrate to provide uniform reflectivity over a wide range of angles with small phase shifts, the broad-angle mirror comprising ~~36~~ bi-layers ~~wherein~~ with an extra thick layer of Molybdenum next to the substrate ~~has a thickness of 2.4-3.7 nm except for a thicker bi-layer 1 nearest substrate and Silicon has a thickness of 3.5 - 4.1 nm except for thicker bi-layers 3, 5, and 15~~.

21. (Currently Amended) The optical system of claim 20 wherein the broad-angle mirror provides an acceptance angle in excess of 20° without a significant loss of reflectivity.

22. (Currently Amended) The optical system of claim 21 wherein the ~~mirror has a~~ loss of reflectivity ~~of~~ is approximately 17%.

23. (Currently Amended) The optical system of claim 20 wherein the broad-angle mirror reflects light comprising ~~comprises~~ a 13.5nm central wavelength.

24. (Currently Amended) The optical system of claim 20 wherein the broad-angle mirror ~~structure~~ further comprises: an extra thick layer of Silicon near the substrate ~~a 13.5nm central wavelength~~.

25. (Currently Amended) The optical system of claim 20 wherein each of the bi-layers ~~have~~ has a variable thickness.

26. (Currently Amended) The system of claim 20 wherein the broad-angle mirror ~~structure~~ includes ~~more than~~ thirty-six bi-blayers.